IN THE CLAIMS

Claims 1-9, the pending claims, are amended are shown in the following claims listing, which supercedes any previous listing.

1. (Previously Presented)   A method of processing images to identify regions of interest within a multi-dimensional data set, comprising the steps of:

acquiring image data in such a way that individual images succeed one another in a direction of succession,

constructing a multi-dimensional data set from the individual images, which multi-dimensional data set assigns data values to positions in a multi-dimensional space, established by the direction of succession and two directions parallel to the surface of the individual images,

reconstructing a slice through the multi-dimensional data set along a cut plane through the multi-dimensional space such that the direction of the cut plane has a component in the direction of succession, and

locating a region of interest on the basis of the cut plane.

2. (Previously Presented)   A method of processing images as claimed in claim 1, wherein the step of locating includes segmenting a region of interest from the one or more individual images based on information in the reconstructed slice along the cut plane through the multi-dimensional data set.

3. (Previously Presented)   A method of processing images as claimed in claim 2, wherein the step of locating further includes locating an edge in the reconstructed slice, whereby the segmenting is performed on the basis of the location of the edge found in a relevant image.

4. (Previously Presented)   A method of processing images as claimed in claim 3, including reconstructing respective slices through the multi-dimensional data set along a plurality of cut planes through the multi-dimensional space such that the directions of the individual cut planes have components in the direction of succession, individual edges are tracked in the individual slices, and

the segmentation of the region of interest in the one or more images is performed on the basis of the individual locations of the respective edges found in the relevant image.

5. (Previously Presented) A method of processing images as claimed in claim 4, further including deriving a boundary of the region of interest by interpolation between the individual locations in the relevant image of the respective edges found.

6. (Previously Presented) A method of processing images as claimed in claim 5, wherein said interpolation is performed inter alia on the basis of a priori information concerning the region of interest.

7. (Previously Presented) An image processing system arranged to process individual images that succeed one another in a direction of succession, and to reconstruct a multi-dimensional data set from the individual images, comprising:

processing means which: a) utilizes the multi-dimensional data set to assign data values to positions in a multi-dimensional space set up by the direction of succession and two directions parallel to the surface of the individual images,

b) reconstructs a slice through the multi-dimensional data set along a cut plane through the multi-dimensional space, wherein the direction of the cut plane has a component in the direction of succession, and

c) locates a region of interest on the basis of the cut plane.

8. (Previously Presented) A computer-readable medium comprising a set of computer-readable instructions by which a microprocessor or like device capable of reading said instructions is able to:

process individual images that succeed one another in a direction of succession,

reconstruct a multi-dimensional data set from the individual images,

assign data values to positions in a multidimensional space set up by the direction of succession and two directions parallel to the surface of the individual images,

reconstruct a slice through the multi-dimensional data set along a cut plane through the multi-dimensional space, where the direction of the cut plane has a component in the direction of succession, and

locate a region of interest on the basis of the cut plane.

9. (Previously Presented)   A medical diagnostic workstation comprising an image processing system as claimed in claim 7.